

FACULTY OF AGRICULTURE

BSC AGRICULTURE EXAMINATIONS

AEC 4307

AGRICULTURAL PROJECT PLANNING AND EVALUATION

MAY 2023

MARKS: 100

TIME: 3 HOURS

Answer **all** questions Instructions:

QUESTION 1

The government of Lesotho through the Ministry of Agriculture is proposing a horticulture production project in Masianokeng. The information below shows the costs and expected returns of the proposed project.

Year	Capital Items	Operating and Maintenance	Gross Costs	Gross Benefits	Incremental Net Benefit
1	400 000	0	400 000	0	-400 000
2	200 000	30 000	230 000	100 000	-130 000
3	-	50 000	50 000	200 000	200 000
4	-	50 000	50 000	250 000	200 000
5	-	50 000	50 000	250 000	200 000
6	-	50 000	50 000	250 000	200 000
7	-	50 000	50 000	250 000	200 000
Total	600 000	280 000	880 000	1 300 000	470 000

- a. Estimate the Net Present Value of this project at 18% discount rate and say if this project is worth implementing. (6)
- b. Calculate the Net Benefit Investment Ratio and comment on the worth of this project. (6)
- c. Recalculate the Net Present Value at 21% discount rate, determine the Internal Rate of Return for this project. If the opportunity cost of capital is 18%, is this project worth undertaking based on the Internal Rate of Return? (12)
- d. Calculate the Benefit Cost ratio for this project at 18% discount rate. (10)
- e. If the investment costs increased by 10%, how sensitive is this project's NPV to changes increased costs? (6)

QUESTION 2

What costs are associated with agricultural projects? Discuss. (20)

QUESTION 3

Discuss any four aspects of project preparation and analysis. (20)

QUESTION 4

Agricultural projects are sensitive to changes in four important areas. Discuss those areas. (20)